

1/4 CENT TAX INCREASE TO FUND COUNTY EFFORTS TO COMBAT CLIMATE CHANGE

“The world’s leading climate scientists have warned there is only a dozen years for global warming to be kept to a maximum of 1.5C, beyond which even half a degree will significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people.

The authors of the landmark report by the UN Intergovernmental Panel on Climate Change (IPCC) say urgent and unprecedented changes are needed to reach the target, which they say is affordable and feasible although it lies at the most ambitious end of the Paris agreement pledge to keep temperatures between 1.5C and 2C.”

From “The Guardian”, Oct. 8, 2018

- A quarter cent tax increase for Orange County would yield \$469,272.
- Rate increase impact:

Property Value	Increase
\$200,000	\$5
\$300,000	\$7.50
\$400,000	\$10

Potential Projects Already Identified by the County Sustainability Director

Low Income Home Weatherization Program ([Buncombe County has a great model](#), \$150,000 per year plus partnerships, potentially grant-assisted):

When considering investments in sustainability the current best practice is to consider equity first, so that those who benefit most directly from the proposed action are the people who most need assistance. Weatherization programs, when done well, increase the health and quality of life for low-income families while reducing energy use and payments. They also take time to build trust with low-income communities and resources that often go beyond insulation and LEDs as some houses require structural repairs as well as efficiency upgrades. Chapel Hill and Carrboro both have recent experience through their WISE programs.

Climate Action Plan (\$70K-\$100K): As a signatory to the Global Covenant of Mayors, the County is expected to produce a Climate Action Plan within the next 2 years. This plan could be done in-house by staff with help from the CFE, though it would likely be more limited or borrow more heavily from another local government’s plan. A climate action plan would provide robust information to inform the County’s transition to renewable energy and other GHG emission reduction activities. Hiring a contractor would allow for more technical assistance and substantive community engagement which would improve the plan’s relevance to County residents and allow for them to buy-in.

New Building Commissioning (~1% of construction costs):

Energy conservation needs to go hand-in-hand with renewable energy installation to maximize the County's investment, and Commissioning has an excellent track record for ensuring buildings are built well and are performing well from the start. Payback is often realized within the first 5 years and if the building is performing well there are added benefits in avoiding water intrusion issues and increasing occupant comfort.

Existing Building Commissioning (\$0.25 to \$0.75 per sq. ft for analysis only, \$0.75 to \$2.00 per sq. ft for analysis plus implementation):

This would involve hiring 3rd party experts to analyze building performance and recommend and sometime implement the adjustments needed to restore the building's performance to at or better than its original performance. There is often a 2-year payback on this investment based on an expected range of energy savings between 10% to 35%. These figures are based on a 2015 report from NC DEQ and backed up by a 2016 quote from a local vendor.

Performance Contracting (projects are structured to match energy bill savings to debt service payments, Total debt is likely \$1 - \$2 million):

Performance contracting is a revenue-neutral method by which energy efficiency improvements can be made and if done well would replace the need to do existing building commissioning on all buildings included in the project. Performance contracting balances the avoided monthly and annual utilities costs generated by the energy efficiency upgrades across multiple facilities against the monthly and annual project cost payments. These projects also have the benefit of pairing projects with quick payback (e.g.- Lighting retrofits) with those with longer payback (e.g.- boiler replacements) to create larger energy savings and maintain affordability. Savings are guaranteed by the vendor and vendors must be pre-qualified by the state. These types of projects require a significant amount of staff time to coordinate with contractors and with departments where work is occurring.

Rooftop Solar on County buildings:

Estimates based on quotes received in 2017:

- \$102,500 for a 71 kW solar photovoltaic (PV) system on the Central Recreation Center
- \$360,425 for a 187 kW solar PV system on the Sportsplex
- \$360,425 for a 187 kW solar PV system on the Southern Human Services Center

There may be opportunities to lower up-front costs by leasing the PV systems, although the lease financing model may be less appropriate for electric rate structures with demand charges. Ideally, monthly lease payments can be matched to the expected savings on electric bills.

There will be other viable project ideas. The intention of this list is to show that we know of several ways to immediately invest the money fruitfully. We welcome other ideas. Not only will the funds reduce our climate impact, our work will inspire others and have a multiplier effect. We can also share what we learn with the private sector. There is no reason to delay.

Mark Marcoplos – Orange County Commissioner